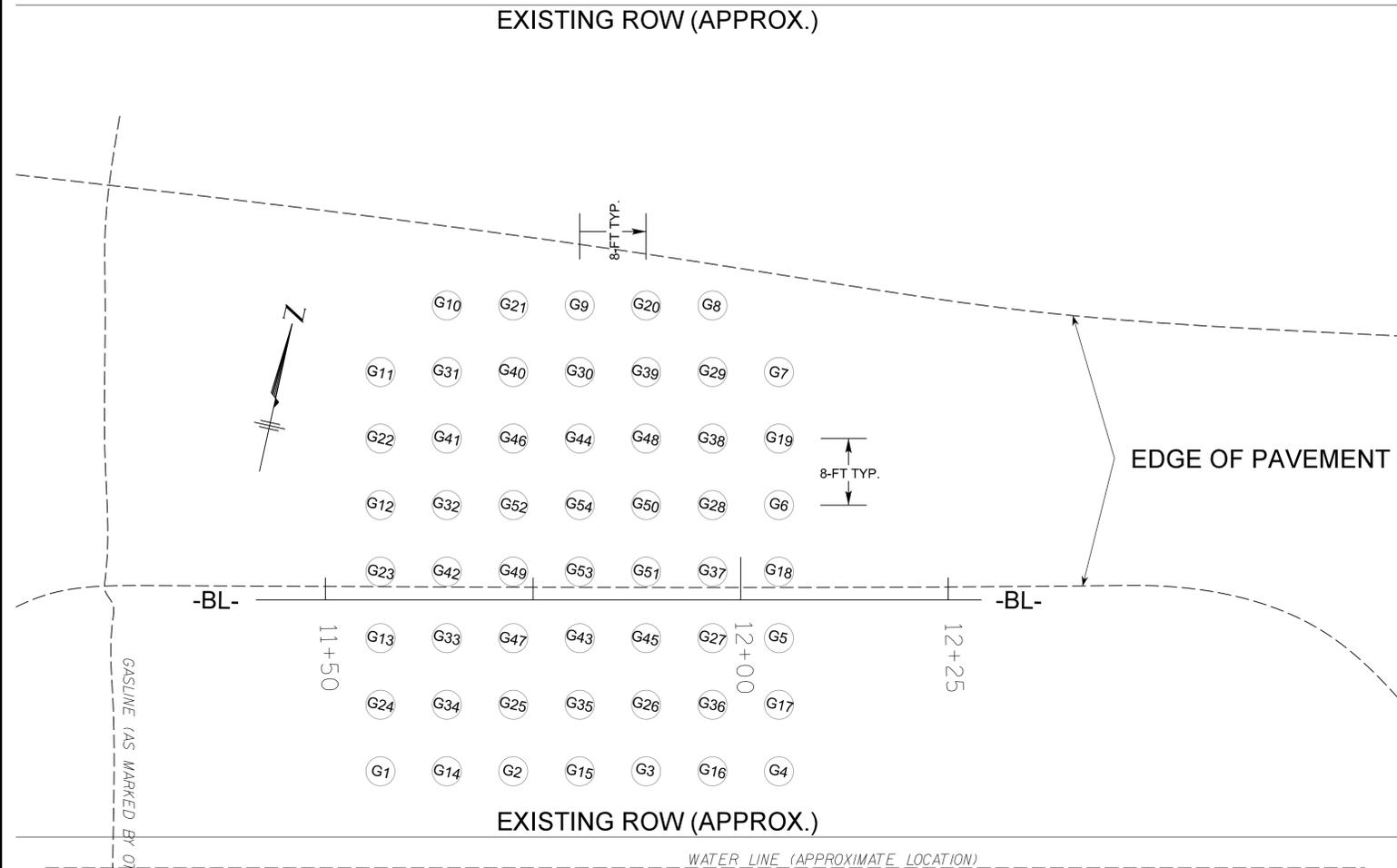


<b>PROJECT REFERENCE NO.</b> 51215.01N	<b>SHEET NO.</b> 1
	ENGINEER
DocuSigned by: <i>Michael Valiquette</i> 5/18/2017	SIGNATURE DATE
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

Grout Hole Number	Station	Offset (ft.)	Anticipated Casing Depth (ft.)
G1	11+57	21 RT	97
G2	11+73	21 RT	97
G3	11+89	21 RT	97
G4	12+05	21 RT	97
G5	12+05	5 RT	95
G6	12+05	11 LT	86
G7	12+05	27 LT	89
G8	11+97	35 LT	88
G9	11+81	35 LT	86
G10	11+65	35 LT	89
G11	11+57	27 LT	85
G12	11+57	11 LT	88
G13	11+57	5 RT	98
G14	11+65	21 RT	97
G15	11+81	21 RT	97
G16	11+97	21 RT	97
G17	12+05	13 RT	100
G18	12+05	3 LT	90
G19	12+05	19 LT	89
G20	11+89	35 LT	88
G21	11+73	35 LT	89
G22	11+57	19 LT	70
G23	11+57	3 LT	96
G24	11+57	13 RT	97
G25	11+73	13 RT	101
G26	11+89	13 RT	103
G27	11+97	5 RT	100
G28	11+97	11 LT	89
G29	11+97	27 LT	88
G30	11+81	27 LT	88
G31	11+65	27 LT	85
G32	11+65	11 LT	92
G33	11+65	5 RT	98
G34	11+65	13 RT	100
G35	11+81	13 RT	103
G36	11+97	13 RT	100
G37	11+97	3 LT	90
G38	11+97	19 LT	89
G39	11+89	27 LT	88
G40	11+73	27 LT	89
G41	11+65	19 LT	70
G42	11+65	3 LT	96
G43	11+81	5 RT	103
G44	11+81	19 LT	89
G45	11+89	5 RT	103
G46	11+73	19 LT	89
G47	11+73	5 RT	98
G48	11+89	19 LT	89
G49	11+73	3 LT	97
G50	11+89	11 LT	93
G51	11+89	3 LT	103
G52	11+73	11 LT	97
G53	11+81	3 LT	103
G54	11+81	11 LT	97



COMPACTION GROUTING ESTIMATED QUANTITIES	
MOBILIZATION.....	1 EACH
CASING INSTALLATION.....	4,500 LINEAR FEET
COMPACTION GROUT.....	1,200 CUBIC YARDS

**NOTES**

THE BASELINE -BL- WAS ESTABLISHED AS A STRAIGHT LINE BETWEEN BENCHMARK S1 AND BENCHMARK S3. BENCHMARK S3 WAS ESTABLISHED AS STA 10+00 -BL-, CL. BENCHMARK S1 WAS ESTABLISHED AS 13+52.373 -BL-, CL.

BENCHMARK S1 IS LOCATED AT  
N: 138151.48  
E: 2330083.53

BENCHMARK S3 IS LOCATED AT  
N: 138075.08  
E: 2329739.49

FOR COMPACTION GROUTING, SEE COMPACTION GROUTING SPECIAL PROVISION.

PERFORM COMPACTION GROUTING IN SEQUENCE PATTERN FOLLOWING THE GROUT HOLE LOCATION NUMBERS.

THE FOLLOWING SEQUENCE APPLIES TO ALL GROUT HOLE LOCATIONS.

1. INSTALL CASING TO REFUSAL ON LIMESTONE. SEE ANTICIPATED DEPTHS.
2. PULL GROUT CASING UP TO 1-FT ABOVE LIMESTONE.
3. COMPACTION GROUT FROM 1-FT ABOVE LIMESTONE SURFACE UP TO 6-FT BELOW THE GROUND SURFACE.
4. PUMP COMPACTION GROUT IN 1-FT OR 2-FT LIFTS UNTIL 8 CUBIC FEET OF GROUT HAS BEEN PLACED PER FOOT OF LIFT HEIGHT, A GROUND LEVEL GROUT PRESSURE OF 500 PSI HAS BEEN REACHED AT INJECTION DEPTHS GREATER THAN 60-FT, 400 PSI AT INJECTION DEPTHS BETWEEN 30-FT AND 60-FT, OR 300 PSI AT DEPTHS LESS THAN 30-FT.
5. PUMP COMPACTION GROUT IN EACH LIFT UNTIL CONDITIONS OF NOTE 4 ARE MET, OR THE GROUND SURFACE HEAVES MORE THAN 0.125 INCHES PER LIFT OR CUMULATIVE HEAVE TOTALS 1.5 INCHES, WHICHEVER OCCURS FIRST.

USE A MAXIMUM COMPACTION GROUT PUMP RATE OF 2.0 CUBIC FEET PER MINUTE FOR ALL COMPACTION GROUTING.

THE ENGINEER RESERVES THE RIGHT TO ADD OR DELETE GROUT LOCATIONS, ADJUST GROUT HOLE LAYOUT AND SEQUENCE, CASING INSTALLATION DEPTHS, GROUT TERMINATION CRITERIA, OR GROUT MIX DESIGN AT ANYTIME DURING CONSTRUCTION.

THE CONTRACTOR SHALL BE PREPARED TO INSTALL CASING THROUGH UP TO 5 FEET OF ASPHALT.

THE GROUT VOLUME IS ESTIMATED TO BE 11% OF THE SOIL TREATED VOLUME.

THE WATER LINE SHALL BE MONITORED FOR MOVEMENT DURING COMPACTION GROUTING. WATER LINE DEPTH IS APPROXIMATELY 4 TO 5 FEET.

AFTER COMPLETING COMPACTION GROUTING, FILL HOLES WITH GROUT OR FLOWABLE FILL TO WITHIN 6 INCHES OF THE GROUND SURFACE.

PREPARED BY: MDV	DATE: 05/2017
REVIEWED BY: NDM	DATE: 05/2017

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**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

**GEOTECHNICAL ENGINEERING UNIT**



**SANDERS RD. SINKHOLE COMPACTION GROUTING (SHEET 1 OF 1)**

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		